

APPENDIX D— Methane Emissions from Natural Gas and Oil Systems

Data from State Inventory Tool

INPUT:

Table D-1 Natural Gas Emission Factors

<u>Activity</u>		<u>Emission Factor</u>
Transmission		
Metric tons of CH ₄ per gas transmission compressor station		974.78
Metric tons of CH ₄ per gas storage compressor station		954.55
Metric tons of CH ₄ per mile of transmission pipeline		0.61
Distribution		
Metric tons of CH ₄ per mile of cast iron distribution pipeline		4.75
Metric tons of CH ₄ per mile of unprotected steel distribution pipeline		2.25
Metric tons of CH ₄ per mile of protected steel distribution pipeline		0.084
Metric tons of CH ₄ per mile of plastic distribution pipeline		0.54
Metric tons of CH ₄ per service		0.0125
Metric tons of CH ₄ per unprotected steel services		0.0323
Metric tons of CH ₄ per protected steel services		0.0034

**Table D-2 Natural Gas
Activity Data**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Transmission											
Miles of transmission pipeline	361	364	431	478	493	493	495	495	495	554	553
Number of gas transmission compressor stations	2	2	3	3	3	3	3	3	3	3	3
Number of gas storage compressor stations	0	0	1	1	1	1	1	1	1	1	1
Distribution											
Miles of cast iron distribution pipeline	9	7	1	3	2	2	1	1	1	1	-
Miles of unprotected steel distribution pipeline	41	35	35	33	28	25	22	16	16	16	8
Miles of protected steel distribution pipeline	13,700	14,346	14,542	14,707	14,959	14,652	12,878	13,890	122,210	13,895	13,911
Miles of plastic distribution pipeline	7,876	8,240	9,055	9,896	10,709	10,656	13,867	15,034	14,707	17,195	18,243
Total number of services	1,091,965	969,563	1,160,739	1,191,319	1,232,223	1,204,084	1,318,464	1,344,464	1,241,567	1,408,706	1,446,892
Number of unprotected steel services	3,583	3,453	3,356	3,138	2,960	1,777	1,522	1,074	938	737	446
Number of protected steel services	392,247	429,600	440,798	434,591	443,656	432,901	365,837	363,530	311,187	356,767	355,752

OUTPUT:

**Table D-3 Emissions
(MMTCO₂ Eq.)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Natural Gas	0.490	0.466	0.537	0.561	0.584	0.574	0.632	0.653	0.810	0.703	0.724

Filename: GHG Inventory Report Appendix D.doc
Directory: C:\Data\PDFsforweb
Template: C:\Program Files\Microsoft Office\Templates\Normal.dot
Title: APPENDIX D– Methane Emissions from Natural Gas and
Oil Systems
Subject: Wisconsin Greenhouse Gas Emissions Trends 1990-2000
Author: Sara Kerr
Keywords: methane, natural gas, oil, emissions, GHGs
Comments:
Creation Date: 02/10/04 3:58 PM
Change Number: 3
Last Saved On: 02/11/04 1:38 PM
Last Saved By: Wisconsin DNR
Total Editing Time: 3 Minutes
Last Printed On: 02/11/04 1:40 PM
As of Last Complete Printing
Number of Pages: 4
Number of Words: 8,577 (approx.)
Number of Characters: 48,890 (approx.)